

IDC DOCUMENTATION

# Database Schema



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**Contributors**

Jerry A. Carter, Science Applications International Corporation  
Roger Bowman, Science Applications International Corporation  
Kendra Biegalski, Veridian Systems  
Jane Bohlin, Veridian Systems  
Mark D. Fisk, Mission Research Corporation  
Richard J. Carlson, Mission Research Corporation  
William E. Farrell, Science Applications International Corporation  
Bonnie MacRitchie, Science Applications International Corporation  
Hallie Magyar, Veridian Systems

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### Change Page

This document is Revision 3 of the Database Schema. The following changes have been made for this publication:

Page	Change
All	The revision number of the document was changed to 3.
<a href="#">ii</a>	Descriptions of the changes included in this version of the document were updated.
<a href="#">iv</a>	New references were added to the Related Information section.
<a href="#">8</a>	The Fundamental S/H/I table relationships figure was changed. The relationship between <b>stamag</b> and <b>netmag</b> was changed from many-to-one to many-to-zero or many-to-one. The relationship between <b>wftag</b> and <b>wfdisc</b> was changed; the “zero” on the <b>wfdisc</b> side of the relationship was removed.
<a href="#">14</a>	The Waveform table relationships figure was changed. All relationships between <b>wftag</b> and another table were changed to many-to-one or zero-to-one.
<a href="#">16</a>	The Network table relationships figure was changed. The relationship between <b>site</b> and <b>site_address</b> was changed from one-to-one to many-to-one.
<a href="#">19</a>	The Event Screening table relationships figure was changed to reflect new table contents. The figure was also moved from the Fundamental category to the Automatic Processing category.
<a href="#">20</a>	The Analyst Review table relationships figure was changed to include the <b>revaudit</b> table.
<a href="#">22</a>	The Timeseries Spectrums table relationships figure was changed. The relationship between <b>wftag</b> and <b>wfdisc</b> was changed from many-to-one to many-to-one or zero-to-one.
<a href="#">26</a>	The Subscription Subsystem table relationships figure was changed to reflect new table contents.
<a href="#">27</a>	The <b>std_chanmap</b> and <b>exception_chanmap</b> tables were added to the Message and Subscription Subsystems Support Tables figure.
<a href="#">27</a> , <a href="#">60</a> , <a href="#">322</a>	The <i>msgtype</i> attribute was added to the <b>datauser</b> table.
<a href="#">73</a>	The <i>cp8</i> , <i>snr7</i> , and <i>noi7</i> attribute definitions in the <b>evsc_hydro</b> table were replaced by <i>cp_broad_band</i> , <i>snr_high_band</i> , and <i>noise_high_band</i> .
<a href="#">73</a> , <a href="#">195</a>	The <i>arid</i> attribute was removed from the <b>evsc_hydro</b> table.
<a href="#">73</a> , <a href="#">353</a>	The <i>prodid</i> attribute was removed from the <b>evsc_hydro</b> table.

Page	Change
<a href="#">73</a> , <a href="#">384</a>	The <i>sta_clear_path</i> attribute was removed from the <b>evsc_hydro</b> table.
<a href="#">73</a> , <a href="#">384</a>	The <i>sta_score</i> attribute was removed from the <b>evsc_hydro</b> table.
<a href="#">74</a>	The <i>moveout</i> , <i>ndp_snr</i> , <i>magtype_mb</i> , <i>magtype_ms</i> , <i>tect_num</i> , <i>net_pnsmax5</i> , and <i>net_pnsmax7</i> attributes were removed from the <b>evsc_prod</b> table and the <i>moveout_pp</i> , <i>moveout_sp</i> , <i>min_dt_pp</i> , <i>min_dt_sp</i> , <i>ndp_snr_pp</i> , <i>ndp_snr_sp</i> attributes were added to the <b>evsc_prod</b> table. Several of the definitions were also updated.
<a href="#">76</a>	The description for the <b>evsc_regional</b> table was updated. The <i>chan</i> , <i>pnsmax</i> , <i>pnsmax_corr</i> , <i>pnsmax_err</i> , <i>pnsn</i> , <i>pnlg</i> , <i>pn_snr</i> , <i>sn_snr</i> , <i>lg_snr</i> , <i>pnsn_qual</i> , and <i>pnlg_qual</i> attributes were added to the table, and the <i>prodid</i> , <i>pnsmax5</i> , <i>pnsmax7</i> , <i>pnsn5</i> , <i>pnsn7</i> , <i>pnlg5</i> , <i>pnlg7</i> , <i>pn5_sn</i> , <i>pn7_sn</i> , <i>sn5_sn</i> , <i>sn7_sn</i> , <i>lg5_sn</i> , <i>lg7_sn</i> , <i>pnsn5_qual</i> , <i>pnsn7_qual</i> , <i>pnlg5_qual</i> , and <i>pnlg7_qual</i> were dropped from the table
<a href="#">80</a>	The <b>exception_chanmap</b> table was added to the S/H/I Table Descriptions chapter.
<a href="#">83</a>	The <b>fs_stageproduct</b> table was added to the schema. It is the same as the <b>fileproduct</b> table.
<a href="#">83</a> , <a href="#">240</a>	The format of the <i>dsize</i> attribute in the <b>fileproduct</b> table was changed from number(8) to number(10).
<a href="#">83</a> , <a href="#">255</a>	The format of the <i>foff</i> attribute in the <b>fileproduct</b> table was changed from number(8) to number(10).
<a href="#">87</a>	The format of the <i>msgdformat</i> attribute in the <b>fpdescription</b> table was changed from varchar2(8) to varchar2(16).
<a href="#">121</a> , <a href="#">323</a>	The format of the <i>msize</i> attribute in the <b>msgdisc</b> table was changed from number(8) to number (10).
<a href="#">122</a> , <a href="#">253</a>	The format of the <i>filesize</i> attribute in the <b>msgdisc</b> table was changed from number(8) to number (10).
<a href="#">122</a> , <a href="#">307</a>	The format of the <i>mfoff</i> attribute in the <b>msgdisc</b> table was changed from number(8) to number (10).
<a href="#">122</a> , <a href="#">252</a>	The format of the <i>fileoff</i> attribute in the <b>msgdisc</b> table was changed from number(8) to number (10).
<a href="#">122</a> , <a href="#">255</a>	The format of the <i>foff</i> attribute in the <b>msgdisc</b> table was changed from number(8) to number (10).

Page	Change
<a href="#">140</a>	The description for the <b>producttypeevsc</b> table was updated. The <i>min_ndp_pp</i> , <i>min_ndp_sp</i> , <i>min_moveout_pp</i> , <i>min_moveout_sp</i> , <i>min_dp_snr_pp</i> , <i>min_dp_snr_sp</i> , <i>magpref_mb</i> , and <i>magpref_ms</i> attributes were added to the table. The <i>min_ndp</i> , <i>min_moveout</i> , <i>min_dp_snr</i> , <i>reg_min_psnr</i> , and <i>reg_min_ssnr</i> were dropped from the table.
<a href="#">153</a>	The <b>revaudit</b> table was added to the schema.
<a href="#">170</a>	The <b>std_chanmap</b> table was added to the S/H/I database tables chapter.
<a href="#">197</a>	The <b>revaudit</b> table was added to the <i>auth</i> attribute description.
<a href="#">208</a>	The <b>evsc_regional</b> table was added to the <i>chan</i> attribute description.
<a href="#">220</a>	The <i>cp8</i> attribute description was replaced by <i>cp_broad_band</i> .
<a href="#">251</a>	The <i>ext_chan</i> attribute was added to the S/H/I attributes.
<a href="#">268</a>	The <i>hydro_grp_phase</i> attribute name was corrected to <i>hyd_grp_phase</i> .
<a href="#">275</a>	The <i>int_chan</i> attribute was added to the S/H/I attributes.
<a href="#">283</a>	The <b>exception_chanmap</b> , <b>revaudit</b> , and <b>std_chanmap</b> tables were added to the <i>lddate</i> attribute description.
<a href="#">284</a>	The <i>lg_snr</i> attribute replaced the <i>lg5_snr</i> and <i>lg7_snr</i> attributes.
<a href="#">295</a>	The <i>magpref_mb</i> and <i>magpref_ms</i> attributes were added to the S/H/I Column Descriptions chapter.
<a href="#">296</a>	The <i>magtype_mb</i> and <i>magtype_ms</i> attributes were removed from the S/H/I Column Descriptions chapter.
<a href="#">308</a>	The <i>min_dp_snr_pp</i> and <i>min_dp_snr_sp</i> attributes replaced the <i>min_dp_snr</i> attribute.
<a href="#">308</a>	The <i>min_dt_pp</i> and <i>min_dt_sp</i> attributes were included in the S/H/I Column Descriptions chapter.
<a href="#">309</a>	The <i>min_moveout_pp</i> and <i>min_moveout_sp</i> attributes replaced the <i>min_moveout</i> attribute.
<a href="#">310</a>	The <i>min_ndp_pp</i> and <i>min_ndp_sp</i> attributes replaced the <i>min_ndp</i> attribute.
<a href="#">318</a>	The <i>moveout_pp</i> and <i>moveout_sp</i> attributes replaced the <i>moveout</i> attribute.
<a href="#">329</a>	The <i>ndp_snr_pp</i> and <i>ndp_snr_sp</i> attributes replaced the <i>ndp_snr</i> attribute.
<a href="#">330</a>	The <i>net_pnsmax5</i> and <i>net_pnsmax7</i> attributes were removed from the S/H/I Column Descriptions chapter.

Page	Change
<a href="#">333</a>	The <i>noi7</i> attribute description was replaced by <i>noise_high_band</i> .
<a href="#">337</a>	The <b>exception_chanmap</b> and <b>std_chanmap</b> tables were added to the <i>offdate</i> attribute description.
<a href="#">338</a>	The <b>exception_chanmap</b> and <b>std_chanmap</b> tables were added to the <i>ondate</i> attribute description.
<a href="#">346</a>	The <i>pn_snr</i> attribute replaced the <i>pn5_sn</i> and <i>pn7_sn</i> attributes.
<a href="#">347</a>	The <i>pnlg</i> attribute replaced the <i>pnlg5</i> and <i>pnlg7</i> attributes.
<a href="#">347</a>	The <i>pnlg_qual</i> attribute replaced the <i>pnlg5_qual</i> and <i>pnlg7_qual</i> attributes.
<a href="#">347</a>	The <i>pnsmax</i> attribute replaced the <i>pnsmax5</i> and <i>pnsmax7</i> attributes.
<a href="#">347</a>	The <i>pnsmax_corr</i> and <i>pnsmax_err</i> attributes were added to the S/H/I Column Descriptions chapter.
<a href="#">348</a>	The <i>pnsn</i> attribute replaced the <i>pnsn5</i> and <i>pnsn7</i> attributes.
<a href="#">348</a>	The <i>pnsn_qual</i> attribute replaced the <i>pnsn5_qual</i> and <i>pnsn7_qual</i> attributes.
<a href="#">353</a>	The <b>evsc_regional</b> table was dropped from the <i>prodid</i> attribute description.
<a href="#">363</a>	The <i>reg_min_psnr</i> and <i>reg_min_ssnr</i> attributes were dropped from the S/H/I Column Descriptions chapter.
<a href="#">365</a>	The <i>revfunction</i> , <i>revid</i> , <i>revtagid1</i> , <i>revtagname1</i> , <i>revtagid2</i> , <i>revtagname2</i> , and <i>revstate</i> attributes were added to the S/H/I Column Descriptions chapter.
<a href="#">380</a>	The <i>sn_snr</i> attribute replaced the <i>sn5_sn</i> and <i>sn7_sn</i> attributes.
<a href="#">380</a>	The <i>snr7</i> attribute description was replaced by <i>snr_high_band</i> .
<a href="#">384</a>	The <b>exception_chanmap</b> table was added to the <i>sta</i> attribute description.
<a href="#">396</a>	The <i>tectnum</i> attribute was removed from the S/H/I Column Descriptions chapter.
<a href="#">416</a>	The Database Table Groups table was altered to reflect the changes to the radionuclide schema since the last release of the document.
<a href="#">422</a>	The <b>gards_flags</b> table was added to Table 126.
<a href="#">422</a>	The <b>gards_bg_energy_cal</b> table was added to Table 127.
<a href="#">426</a>	Several new synonyms were added to the RMSAUTO account (Table 129).
<a href="#">429</a>	Triggers for the RMSAUTO account were consolidated and updated (Table 130).

Page	Change
<a href="#">435</a>	The <b>gards_dbrole_owner</b> table was added to the RMSMAN unique data constraints (Table 132).
<a href="#">435</a>	The <b>gards_flags</b> table was added to the RMSMAN primary key constraints (Table 133).
<a href="#">436</a>	The <b>gards_bg_energy_cal</b> table was added to the RMSMAN foreign key constraints (Table 134).
<a href="#">438</a>	Several sequences were added to the RMSMAN account (Table 136).
<a href="#">439</a>	Several synonyms were added to the RMSMAN account (Table 137).
<a href="#">444</a>	The <b>gards_soh_char_data</b> , <b>gards_soh_num_data</b> , and <b>gards_soh_sensor_data</b> tables replaced the <b>gards_soh_data</b> table in Figure 27.
<a href="#">449</a>	The <b>gards_sample_cat</b> table replaced the <b>gards_nic</b> table in Figure 32.
<a href="#">452</a>	The <b>gards_sample_xe_procs_params</b> table was updated in Figure 35.
<a href="#">453</a>	The <b>gards_comments_defs</b> table was added to Figure 36 and new attributes were added.
<a href="#">457</a>	The <b>gards_auto_sample_cat</b> table was added to the radionuclide schema.
<a href="#">465</a>	The <b>gards_bg_energy_cal</b> table was added to the radionuclide schema.
<a href="#">466</a>	The <b>gards_cat_template</b> table was added to the radionuclide schema.
<a href="#">469</a>	The <b>gards_comments</b> table was altered; the <i>type</i> attribute was changed to <i>comment_type</i> .
<a href="#">471</a> , <a href="#">598</a>	The <i>dlid</i> attribute was added to the <b>gards_data_log</b> table.
<a href="#">472</a>	The <b>gards_dbrole_owner</b> table was added to the radionuclide schema.
<a href="#">490</a>	The <b>gards_nic</b> and <b>gards_nic_init</b> tables were removed from the radionuclide schema.
<a href="#">508</a> , <a href="#">595</a>	The <i>db_name</i> attribute was added to the <b>gards_permissions</b> table.
<a href="#">530</a> , <a href="#">595</a>	The <i>db_name</i> attribute was added to the <b>gards_roles</b> table.
<a href="#">533</a>	The <b>gards_sample_cat</b> table was added to the radionuclide schema.
<a href="#">546</a>	Several attributes were added to the <b>gards_sample_xe_procs_params</b> table.
<a href="#">547</a>	The <b>gards_soh_char_data</b> table was added to the radionuclide schema.
<a href="#">548</a>	Several attributes were added to the <b>gards_soh_code</b> table.
<a href="#">548</a>	The <b>gards_soh_data</b> table was removed from the radionuclide schema.

Page	Change
<a href="#">550</a>	The <b>gards_soh_num_data</b> table was added to the radionuclide schema.
<a href="#">551</a>	The <b>gards_soh_sensor_data</b> table was added to the radionuclide schema.
<a href="#">561</a> , <a href="#">639</a>	The <i>sample_id</i> attribute was added to the <b>gards_user_comments</b> table.
<a href="#">563</a> , <a href="#">595</a>	The <i>default_role</i> attribute was moved from the <b>gards_users</b> table to the <b>gards_users_roles</b> table.
<a href="#">567</a>	Several attributes were added to the <b>gards_xe_proc_params_template</b> table.
<a href="#">570</a>	The <i>abscissa</i> attribute was added to the radionuclide schema.
<a href="#">573</a>	The <b>gards_auto_sample_cat</b> and <b>gards_sample_cat</b> tables were added to the <i>activity</i> attribute.
<a href="#">574</a>	The <b>gards_cat_template</b> table was added to the <i>alpha</i> attribute.
<a href="#">582</a>	The <b>gards_cat_template</b> table was added to the <i>begin_date</i> attribute.
<a href="#">583</a>	The <i>beta_coeff1</i> , <i>beta_coeff2</i> , and <i>beta_coeff3</i> attributes were added to the radionuclide schema.
<a href="#">583</a>	The <i>beta_ecr_order</i> attribute was added to the radionuclide schema.
<a href="#">586</a>	The <b>gards_auto_sample_cat</b> and <b>gards_sample_cat</b> tables were added to the <i>category</i> attribute.
<a href="#">586</a>	The <b>gards_cat_template</b> , <b>gards_sample_cat</b> , and <b>gards_auto_sample_cat</b> tables were added to the <i>central_value</i> attribute.
<a href="#">591</a>	The <b>gards_cat_template</b> table was added to the <i>comment_text</i> attribute.
<a href="#">591</a>	The <b>gards_comments</b> table was added to the <i>comment_type</i> attribute and the format was changed to number.
<a href="#">592</a>	The <b>gards_sample_xe_proc_params</b> and <b>gards_xe_proc_params_template</b> tables were added to the <i>compton</i> attribute.
<a href="#">592</a>	The <i>constant</i> attribute was removed from the radionuclide schema.
<a href="#">596</a>	The <i>delta</i> attribute was added to the radionuclide schema.
<a href="#">597</a>	The <i>det_back_used</i> attribute was added to the radionuclide schema.
<a href="#">598</a>	The <b>gards_cat_template</b> , <b>gards_soh_char_data</b> , <b>gards_soh_num_data</b> , and <b>gards_soh_sensor_data</b> tables were added to the <i>detector_id</i> attribute.
<a href="#">598</a>	The <i>display_detector</i> and <i>display_station</i> attributes were added to the radionuclide schema.



Page	Change
<a href="#">600</a>	The <b>gards_soh_char_data</b> , <b>gards_soh_num_data</b> , and <b>gards_soh_sensor_data</b> tables replaced the <b>gards_soh_data</b> table in the <i>dtg_begin</i> attribute.
<a href="#">600</a>	The <b>gards_soh_char_data</b> , <b>gards_soh_num_data</b> , and <b>gards_soh_sensor_data</b> tables replaced the <b>gards_soh_data</b> table in the <i>dtg_end</i> attribute.
<a href="#">603</a>	The <b>gards_cat_template</b> table was added to the <i>end_date</i> attribute.
<a href="#">611</a>	The <b>gards_cat_template</b> table was added to the <i>gamma</i> attribute.
<a href="#">611</a> , <a href="#">612</a>	The <i>gamma_coeff1</i> , <i>gamma_coeff2</i> , and <i>gamma_coeff3</i> attributes were added to the radionuclide schema.
<a href="#">612</a>	The <i>gamma_ecr_order</i> and <i>gas_back_used</i> attributes were added to the radionuclide schema.
<a href="#">614</a>	The <b>gards_auto_sample_cat</b> and <b>gards_sample_cat</b> tables were added to the <i>hold</i> attribute.
<a href="#">615</a>	The <i>init_begin_date</i> and <i>init_end_date</i> attributes were added to the radionuclide schema.
<a href="#">617</a>	The <b>gards_sample_xe_proc_params</b> and <b>gards_xe_proc_params_template</b> tables were added to the <i>lc_abscissa</i> attribute.
<a href="#">618</a>	The <i>lower_bound</i> attribute was added to the radionuclide schema.
<a href="#">621</a>	The <i>method_id</i> and <i>method_type</i> attributes were added to the radionuclide schema.
<a href="#">624</a>	The <b>gards_cat_template</b> , <b>gards_sample_cat</b> , and <b>gards_auto_sample_cat</b> tables were added to the <i>name</i> attribute.
<a href="#">627</a>	The <i>num_samples</i> attribute was added to the radionuclide schema.
<a href="#">628</a>	The <i>owner</i> attribute was added to the radionuclide schema.
<a href="#">628</a>	The <b>gards_soh_char_data</b> and <b>gards_soh_num_data</b> tables replaced the <b>gards_soh_data</b> table in the <i>param_code</i> attribute.
<a href="#">629</a>	The <i>param_display</i> and <i>param_display_flag</i> attributes were added to the radionuclide schema.
<a href="#">639</a>	The <b>gards_auto_sample_cat</b> , <b>gards_sample_cat</b> , and <b>gards_bg_energy_cal</b> tables were added to the <i>sample_id</i> attribute.
<a href="#">640</a>	The <i>sensor_name</i> and <i>sensor_type</i> attributes were added to the radionuclide schema.
<a href="#">643</a>	The <b>gards_cat_template</b> , <b>gards_soh_char_data</b> , <b>gards_soh_num_data</b> , and <b>gards_soh_sensor_data</b> tables were added to the <i>station_id</i> attribute.

Page	Change
<a href="#">646</a>	The <b>gards_cat_template</b> table was added to the <i>tstat</i> attribute.
<a href="#">646</a>	The <i>type</i> attribute for <b>gards_comments</b> was deleted from the radionuclide schema.
<a href="#">647</a>	The <i>unit</i> attribute was added to the radionuclide schema.
<a href="#">647</a>	The <i>upper_bound</i> attribute was added to the radionuclide schema.
<a href="#">649</a>	The <b>gards_soh_char_data</b> , <b>gards_soh_num_data</b> , and <b>gards_soh_sensor_data</b> tables replaced the <b>gards_soh_data</b> table in the <i>value</i> attribute.
<a href="#">651</a>	The <b>gards_cat_template</b> table was added to the <i>xform</i> attribute.
<a href="#">R1</a>	Several new references were added to the document.

# Database Schema

## CONTENTS

<b><u>About this Document</u></b>	i
■ <b><u>PURPOSE</u></b>	ii
■ <b><u>SCOPE</u></b>	iii
■ <b><u>AUDIENCE</u></b>	iii
■ <b><u>RELATED INFORMATION</u></b>	iv
■ <b><u>USING THIS DOCUMENT</u></b>	iv
<u>Conventions</u>	vi
<b><u>Chapter 1: S/H/I Entity Relationships</u></b>	1
■ <b><u>OVERVIEW</u></b>	2
<u>Column Relationships</u>	2
<u>Table Categories</u>	5
■ <b><u>FUNDAMENTAL TABLES</u></b>	6
<u>Summary of Tables and Keys</u>	7
<u>Event</u>	9
<u>Measurements</u>	9
<u>Waveforms</u>	13
■ <b><u>REFERENCE TABLES</u></b>	14
<u>Network</u>	14
<u>Channel</u>	17
■ <b><u>S/H/I APPLICATION SOFTWARE TABLES</u></b>	18
<u>Automatic Processing</u>	18
<u>Interactive Processing</u>	20
<u>Distributed Processing</u>	22
<u>Data Services</u>	23
<u>System and Performance Monitoring</u>	28
<u>Database Support</u>	31

■ <a href="#">HISTORICAL DATA TABLES</a>	31
<b><a href="#">Chapter 2: S/H/I Table Descriptions</a></b>	33
■ <a href="#">AFFILIATION, STANET</a>	34
■ <a href="#">ALLOCATE_HOUR</a>	35
■ <a href="#">ALLOW_RESID</a>	36
■ <a href="#">ALPHASITE</a>	37
■ <a href="#">AMP3C</a>	38
■ <a href="#">AMPDESCRIPT</a>	39
■ <a href="#">AMPLITUDE</a>	40
■ <a href="#">APMA</a>	42
■ <a href="#">ARCH_DATA_TYPE</a>	44
■ <a href="#">ARRIVAL</a>	45
■ <a href="#">ASSOC, ASSOC_TEMP_GA</a>	47
■ <a href="#">ATTENCOEF</a>	49
■ <a href="#">BEAMAUX</a>	50
■ <a href="#">BULL_COMP</a>	51
■ <a href="#">CEPPKS</a>	53
■ <a href="#">CHAN_GROUPS</a>	54
■ <a href="#">CHANNAME</a>	55
■ <a href="#">COLORDISC</a>	56
■ <a href="#">COMPLEXITY</a>	57
■ <a href="#">DATADAYS</a>	58
■ <a href="#">DATAREADY</a>	59
■ <a href="#">DATAUSER</a>	60
■ <a href="#">DETECTION</a>	62
■ <a href="#">DISCARD</a>	64
■ <a href="#">DLFILE</a>	65
■ <a href="#">DLMAN</a>	67

■ <a href="#">EV_SUMMARY, EX_SUMMARY, AN_SUMMARY</a>	68
■ <a href="#">EVENT</a>	70
■ <a href="#">EVENT_CONTROL, IN_EVENT_CONTROL</a>	71
■ <a href="#">EVSC_HYDRO</a>	73
■ <a href="#">EVSC_PROD</a>	74
■ <a href="#">EVSC_REGIONAL</a>	76
■ <a href="#">EX_AN</a>	78
■ <a href="#">EXCEPTION_CHANMAP</a>	80
■ <a href="#">EXPLO</a>	81
■ <a href="#">FILEPRODUCT, FS_STAGEPRODUCT</a>	83
■ <a href="#">FKDISC</a>	84
■ <a href="#">FORBEAMAUX</a>	86
■ <a href="#">FPDESCRIPTION</a>	87
■ <a href="#">FSAVE</a>	88
■ <a href="#">FSDISC</a>	89
■ <a href="#">FSRECIPE</a>	91
■ <a href="#">FSTAG</a>	92
■ <a href="#">FTPFAILED</a>	93
■ <a href="#">FTPLOGIN</a>	94
■ <a href="#">FWFILE</a>	95
■ <a href="#">FWGAP</a>	96
■ <a href="#">FWSITE</a>	97
■ <a href="#">GA_TAG</a>	98
■ <a href="#">GLOSSARY</a>	99
■ <a href="#">GREGION</a>	100
■ <a href="#">HYDRO_ARR_GROUP</a>	101
■ <a href="#">HYDRO_ASSOC</a>	102
■ <a href="#">HYDRO_FEATURES</a>	103

■ <a href="#"><u>INFRA_FEATURES</u></a>	105
■ <a href="#"><u>INSTRUMENT</u></a>	107
■ <a href="#"><u>INTERVAL</u></a>	108
■ <a href="#"><u>LASTID, PROBLASTID, RMS_LASTID</u></a>	109
■ <a href="#"><u>LOCATION</u></a>	110
■ <a href="#"><u>MAPCOLOR</u></a>	111
■ <a href="#"><u>MAPDISC</u></a>	112
■ <a href="#"><u>MAPOVER</u></a>	114
■ <a href="#"><u>MAPPOINT</u></a>	115
■ <a href="#"><u>MIG_DATE</u></a>	116
■ <a href="#"><u>MIG_RULES</u></a>	117
■ <a href="#"><u>MSG AUX</u></a>	118
■ <a href="#"><u>MSGDATATYPE</u></a>	119
■ <a href="#"><u>MSGDEST</u></a>	120
■ <a href="#"><u>MSGDISC</u></a>	121
■ <a href="#"><u>NA_VALUE</u></a>	123
■ <a href="#"><u>NETMAG</u></a>	124
■ <a href="#"><u>NETWORK</u></a>	125
■ <a href="#"><u>ORIG AUX</u></a>	126
■ <a href="#"><u>ORIGERR, ORIGERR_TEMP_GA</u></a>	127
■ <a href="#"><u>ORIGIN, ORIGINREF, ORIGIN_TEMP_GA</u></a>	128
■ <a href="#"><u>OUTAGE</u></a>	130
■ <a href="#"><u>OVERLAYDISC</u></a>	131
■ <a href="#"><u>PARRIVAL</u></a>	132
■ <a href="#"><u>PARTICIPATION</u></a>	133
■ <a href="#"><u>PROBLEM</u></a>	134
■ <a href="#"><u>PROBLEMLOG</u></a>	135
■ <a href="#"><u>PROBLEMMAIL</u></a>	136

■ <a href="#">PRODTRACK</a>	137
■ <a href="#">PRODUCTCRITERIA</a>	138
■ <a href="#">PRODUCTTYPEEVSC</a>	140
■ <a href="#">PRODUCTTYPEORIGIN</a>	142
■ <a href="#">PRODUCTTYPESTA</a>	144
■ <a href="#">QCSTATS</a>	145
■ <a href="#">REBDONE_DATADAY_FLAG</a>	147
■ <a href="#">REF_LOC</a>	148
■ <a href="#">REGCOEF</a>	149
■ <a href="#">REMARK</a>	150
■ <a href="#">REQUEST</a>	151
■ <a href="#">REVAUDIT</a>	153
■ <a href="#">SCAN_DATE</a>	154
■ <a href="#">SEISGRID, DSEISGRID</a>	155
■ <a href="#">SEISINDEX, DSEISINDEX</a>	156
■ <a href="#">SENSOR</a>	157
■ <a href="#">SITE</a>	159
■ <a href="#">SITE_ADDRESS</a>	160
■ <a href="#">SITEAUX</a>	161
■ <a href="#">SITECHAN</a>	162
■ <a href="#">SITEPOLL</a>	163
■ <a href="#">SPLP</a>	164
■ <a href="#">SPVAR</a>	165
■ <a href="#">SREGION</a>	166
■ <a href="#">STAMAG</a>	167
■ <a href="#">STASSOC</a>	169
■ <a href="#">STD_CHANMAP</a>	170
■ <a href="#">SUBS</a>	171

■ <a href="#">SUBUSER</a>	172
■ <a href="#">THIRDMOM</a>	173
■ <a href="#">TIMEFREQ</a>	174
■ <a href="#">TIMESTAMP</a>	175
■ <a href="#">WEIGHTS</a>	176
■ <a href="#">WFAUX</a>	177
■ <a href="#">WFCONV</a>	178
■ <a href="#">WFDISC, WFPROTO</a>	180
■ <a href="#">WFTAG</a>	182
■ <a href="#">XTAG</a>	183
<b><a href="#">Chapter 3: S/H/I Column Descriptions</a></b>	185
■ <a href="#">RANGES</a>	186
■ <a href="#">NA VALUES</a>	186
■ <a href="#">COLUMNS</a>	188
<b><a href="#">Chapter 4: Radionuclide Database Overview</a></b>	413
■ <a href="#">TWO-TIER DATABASE SCHEMA</a>	414
■ <a href="#">DATABASE ORGANIZATION</a>	414
<a href="#">Raw Data Tables (raw)</a>	414
<a href="#">Static Data Tables (static)</a>	415
<a href="#">Analysis Data Tables (analysis)</a>	415
<a href="#">Independent Data Tables (indy)</a>	415
■ <a href="#">RADIONUCLIDE OBJECT DESCRIPTIONS</a>	419
<a href="#">Links to other Databases and Tables</a>	420
<a href="#">Description of RMSAUTO Objects</a>	420
<a href="#">Description of RMSMAN Objects</a>	433
<b><a href="#">Chapter 5: Radionuclide Entity Relationships</a></b>	441
■ <a href="#">OVERVIEW</a>	442
■ <a href="#">RADIONUCLIDE TABLES</a>	442



<b><u>Chapter 6: Radionuclide Table Descriptions</u></b>	455
■ <u>GARDS_ALERTS</u>	456
■ <u>GARDS_AUTO_SAMPLE_CAT</u>	457
■ <u>GARDS_AUX_LIB</u>	458
■ <u>GARDS_AUX_LINES_LIB</u>	459
■ <u>GARDS_B_ENERGY_PAIRS</u>	460
■ <u>GARDS_B_ENERGY_PAIRS_ORIG</u>	461
■ <u>GARDS_B_RESOLUTION_PAIRS</u>	462
■ <u>GARDS_B_RESOLUTION_PAIRS_ORIG</u>	463
■ <u>GARDS_BG_EFFICIENCY_PAIRS</u>	464
■ <u>GARDS_BG_ENERGY_CAL</u>	465
■ <u>GARDS_CAT_TEMPLATE</u>	466
■ <u>GARDS_CODES</u>	468
■ <u>GARDS_COMMENTS</u>	469
■ <u>GARDS_COMMENTS_DEFS</u>	470
■ <u>GARDS_DATA_LOG</u>	471
■ <u>GARDS_DBROLE_OWNER</u>	472
■ <u>GARDS_DETECTORS</u>	473
■ <u>GARDS_DIST_SAMPLE_QUEUE</u>	474
■ <u>GARDS_EFFICIENCY_CAL</u>	475
■ <u>GARDS_EFFICIENCY_PAIRS</u>	476
■ <u>GARDS_ENERGY_CAL</u>	477
■ <u>GARDS_ENERGY_CAL_ORIG</u>	479
■ <u>GARDS_ENERGY_PAIRS</u>	481
■ <u>GARDS_ENERGY_PAIRS_ORIG</u>	482
■ <u>GARDS_ENVIRONMENT</u>	483
■ <u>GARDS_FLAGS</u>	484
■ <u>GARDS_FPE</u>	485

■ <a href="#"><u>GARDS_HISTOGRAM</u></a>	486
■ <a href="#"><u>GARDS_INTERVAL</u></a>	487
■ <a href="#"><u>GARDS_MDAS2REPORT</u></a>	488
■ <a href="#"><u>GARDS_MET_DATA</u></a>	489
■ <a href="#"><u>GARDS_NOTIFY</u></a>	490
■ <a href="#"><u>GARDS_NUCL2QUANTIFY</u></a>	491
■ <a href="#"><u>GARDS_NUCL_IDED</u></a>	492
■ <a href="#"><u>GARDS_NUCL_IDED_ORIG</u></a>	494
■ <a href="#"><u>GARDS_NUCL_LIB</u></a>	496
■ <a href="#"><u>GARDS_NUCL_LINES_IDED</u></a>	497
■ <a href="#"><u>GARDS_NUCL_LINES_IDED_ORIG</u></a>	499
■ <a href="#"><u>GARDS_NUCL_LINES_LIB</u></a>	501
■ <a href="#"><u>GARDS_PEAKS</u></a>	502
■ <a href="#"><u>GARDS_PEAKS_ORIG</u></a>	505
■ <a href="#"><u>GARDS_PERMISSIONS</u></a>	508
■ <a href="#"><u>GARDS_POC</u></a>	509
■ <a href="#"><u>GARDS_PROC_PARAMS_TEMPLATE</u></a>	510
■ <a href="#"><u>GARDS_QCHISTORY</u></a>	513
■ <a href="#"><u>GARDS_QCPARAMS</u></a>	514
■ <a href="#"><u>GARDS_QCTARGETS</u></a>	515
■ <a href="#"><u>GARDS_QUERY_RESULTS</u></a>	516
■ <a href="#"><u>GARDS_RECEIPT_LOG</u></a>	517
■ <a href="#"><u>GARDS_REFLINE_MASTER</u></a>	518
■ <a href="#"><u>GARDS_RELEVANT_NUCLIDES</u></a>	519
■ <a href="#"><u>GARDS_RESOLUTION_CAL</u></a>	520
■ <a href="#"><u>GARDS_RESOLUTION_CAL_ORIG</u></a>	521
■ <a href="#"><u>GARDS_RESOLUTION_PAIRS</u></a>	522
■ <a href="#"><u>GARDS_RESOLUTION_PAIRS_ORIG</u></a>	523

■ <a href="#"><u>GARDS_RLR</u></a>	524
■ <a href="#"><u>GARDS_ROI_CHANNELS</u></a>	525
■ <a href="#"><u>GARDS_ROI_CONCS</u></a>	526
■ <a href="#"><u>GARDS_ROI_COUNTS</u></a>	527
■ <a href="#"><u>GARDS_ROI_LIB</u></a>	528
■ <a href="#"><u>GARDS_ROI_LIMITS</u></a>	529
■ <a href="#"><u>GARDS_ROLES</u></a>	530
■ <a href="#"><u>GARDS_ROLES_PERMISSIONS</u></a>	531
■ <a href="#"><u>GARDS_SAMPLE_AUX</u></a>	532
■ <a href="#"><u>GARDS_SAMPLE_CAT</u></a>	533
■ <a href="#"><u>GARDS_SAMPLE_CERT</u></a>	534
■ <a href="#"><u>GARDS_SAMPLE_CERT_LINES</u></a>	535
■ <a href="#"><u>GARDS_SAMPLE_DATA</u></a>	536
■ <a href="#"><u>GARDS_SAMPLE_DESCRIPTION</u></a>	538
■ <a href="#"><u>GARDS_SAMPLE_FLAGS</u></a>	539
■ <a href="#"><u>GARDS_SAMPLE_PROC_PARAMS</u></a>	540
■ <a href="#"><u>GARDS_SAMPLE_RATIOS</u></a>	543
■ <a href="#"><u>GARDS_SAMPLE_STATUS</u></a>	544
■ <a href="#"><u>GARDS_SAMPLE_UPDATE_PARAMS</u></a>	545
■ <a href="#"><u>GARDS_SAMPLE_XE_PROC_PARAMS</u></a>	546
■ <a href="#"><u>GARDS_SOH_CHAR_DATA</u></a>	547
■ <a href="#"><u>GARDS_SOH_CODE</u></a>	548
■ <a href="#"><u>GARDS_SOH_HEADER</u></a>	549
■ <a href="#"><u>GARDS_SOH_NUM_DATA</u></a>	550
■ <a href="#"><u>GARDS_SOH_SENSOR_DATA</u></a>	551
■ <a href="#"><u>GARDS_SPECTRUM</u></a>	552
■ <a href="#"><u>GARDS_STADET</u></a>	553
■ <a href="#"><u>GARDS_STATION_ASSIGNMENTS</u></a>	554

■ <a href="#">GARDS_STATIONS</a>	555
■ <a href="#">GARDS_STATIONS_SCHEDULE</a>	556
■ <a href="#">GARDS_TOTAL EFFIC</a>	557
■ <a href="#">GARDS_TRENDVUE</a>	558
■ <a href="#">GARDS_UPDATE_PARAMS_TEMPLATE</a>	559
■ <a href="#">GARDS_UPDATE_REFLINES</a>	560
■ <a href="#">GARDS_USER_COMMENTS</a>	561
■ <a href="#">GARDS_USERENV</a>	562
■ <a href="#">GARDS_USERS</a>	563
■ <a href="#">GARDS_USERS_ROLES</a>	564
■ <a href="#">GARDS_XE_NUCL_LIB</a>	565
■ <a href="#">GARDS_XE_NUCL_LINES_LIB</a>	566
■ <a href="#">GARDS_XE_PROC_PARAMS_TEMPLATE</a>	567
<b><a href="#">Chapter 7: Radionuclide Column Descriptions</a></b>	569
<b><a href="#">References</a></b>	R1
<b><a href="#">Glossary</a></b>	G1
<b><a href="#">Index</a></b>	I1

# Database Schema

## FIGURES

<a href="#"><u>FIGURE 1.</u></a>	<a href="#"><u>SAMPLE ENTITY RELATIONSHIP</u></a>	5
<a href="#"><u>FIGURE 2.</u></a>	<a href="#"><u>RELATIONSHIPS BETWEEN FUNDAMENTAL S/H/I TABLES</u></a>	8
<a href="#"><u>FIGURE 3.</u></a>	<a href="#"><u>EVENT TABLE RELATIONSHIPS</u></a>	10
<a href="#"><u>FIGURE 4.</u></a>	<a href="#"><u>DETAIL TABLES RELATED TO ARRIVAL</u></a>	11
<a href="#"><u>FIGURE 5.</u></a>	<a href="#"><u>MEASUREMENT TABLE RELATIONSHIPS</u></a>	12
<a href="#"><u>FIGURE 6.</u></a>	<a href="#"><u>EVENT CHARACTERIZATION TABLE RELATIONSHIPS</u></a>	13
<a href="#"><u>FIGURE 7.</u></a>	<a href="#"><u>WAVEFORM TABLE RELATIONSHIPS</u></a>	14
<a href="#"><u>FIGURE 8.</u></a>	<a href="#"><u>REFERENTIAL CORE TABLE RELATIONSHIPS</u></a>	15
<a href="#"><u>FIGURE 9.</u></a>	<a href="#"><u>NETWORK TABLE RELATIONSHIPS</u></a>	16
<a href="#"><u>FIGURE 10.</u></a>	<a href="#"><u>CHANNEL TABLE RELATIONSHIPS</u></a>	17
<a href="#"><u>FIGURE 11.</u></a>	<a href="#"><u>RELATIONSHIPS OF TABLES USED IN AUTOMATIC PROCESSING</u></a>	18
<a href="#"><u>FIGURE 12.</u></a>	<a href="#"><u>EVENT SCREENING TABLE RELATIONSHIPS</u></a>	19
<a href="#"><u>FIGURE 13.</u></a>	<a href="#"><u>TABLES INVOLVED IN ANALYST REVIEW OF TIME-SERIES DATA</u></a>	20
<a href="#"><u>FIGURE 14.</u></a>	<a href="#"><u>MAP TABLE RELATIONSHIPS</u></a>	21
<a href="#"><u>FIGURE 15.</u></a>	<a href="#"><u>RELATIONSHIPS AMONG TABLES USED TO RECORD SPECTRUMS OF TIME-SERIES DATA</u></a>	22
<a href="#"><u>FIGURE 16.</u></a>	<a href="#"><u>TABLES USED BY DISTRIBUTED PROCESSING APPLICATIONS</u></a>	23
<a href="#"><u>FIGURE 17.</u></a>	<a href="#"><u>CONTINUOUS DATA SUBSYSTEM TABLE RELATIONSHIPS</u></a>	24
<a href="#"><u>FIGURE 18.</u></a>	<a href="#"><u>MESSAGE SUBSYSTEM TABLE RELATIONSHIPS</u></a>	25
<a href="#"><u>FIGURE 19.</u></a>	<a href="#"><u>SUBSCRIPTION SUBSYSTEM TABLE RELATIONSHIPS</u></a>	26
<a href="#"><u>FIGURE 20.</u></a>	<a href="#"><u>MESSAGE AND SUBSCRIPTION SUBSYSTEM SUPPORT TABLES</u></a>	27
<a href="#"><u>FIGURE 21.</u></a>	<a href="#"><u>DATA ARCHIVING SUBSYSTEM TABLES</u></a>	28
<a href="#"><u>FIGURE 22.</u></a>	<a href="#"><u>TABLES USED BY SYSTEM MONITORING APPLICATIONS</u></a>	29
<a href="#"><u>FIGURE 23.</u></a>	<a href="#"><u>TABLES USED FOR PERFORMANCE MONITORING</u></a>	30
<a href="#"><u>FIGURE 24.</u></a>	<a href="#"><u>TABLES USED TO SUPPORT SCHEMA</u></a>	31

<a href="#"><u>FIGURE 25.</u></a>	<a href="#"><u>TABLES USED TO DESCRIBE EXPLOSIONS</u></a>	32
<a href="#"><u>FIGURE 26.</u></a>	<a href="#"><u>RADIONUCLIDE EQUIPMENT</u></a>	443
<a href="#"><u>FIGURE 27.</u></a>	<a href="#"><u>RAW SENSOR DATA</u></a>	444
<a href="#"><u>FIGURE 28.</u></a>	<a href="#"><u>RAW PULSE HEIGHT DATA</u></a>	445
<a href="#"><u>FIGURE 29.</u></a>	<a href="#"><u>RAW PARTICULATE CALIBRATION DATA</u></a>	446
<a href="#"><u>FIGURE 30.</u></a>	<a href="#"><u>RAW NOBLE GAS DATA</u></a>	447
<a href="#"><u>FIGURE 31.</u></a>	<a href="#"><u>CALCULATED PARTICULATE CALIBRATION DATA</u></a>	448
<a href="#"><u>FIGURE 32.</u></a>	<a href="#"><u>CALCULATED PARTICULATE DETECTION AND CHARACTERIZATION DATA</u></a>	449
<a href="#"><u>FIGURE 33.</u></a>	<a href="#"><u>PARTICULATE PARAMETER AND STATUS DATA</u></a>	450
<a href="#"><u>FIGURE 34.</u></a>	<a href="#"><u>CALCULATED NOBLE GAS DETECTION DATA</u></a>	451
<a href="#"><u>FIGURE 35.</u></a>	<a href="#"><u>NOBLE GAS PARAMETER AND STATUS DATA</u></a>	452
<a href="#"><u>FIGURE 36.</u></a>	<a href="#"><u>ANALYST COMMENT DATA</u></a>	453
<a href="#"><u>FIGURE 37.</u></a>	<a href="#"><u>MULTIPLE ANALYST REVIEW DATA</u></a>	454

# Database Schema

## TABLES

<a href="#"><u>TABLE I:</u></a>	<a href="#"><u>ENTITY-RELATIONSHIP SYMBOLS</u></a>	vi
<a href="#"><u>TABLE II:</u></a>	<a href="#"><u>TYPOGRAPHICAL CONVENTIONS</u></a>	vii
<a href="#"><u>TABLE III:</u></a>	<a href="#"><u>TECHNICAL TERMS</u></a>	viii
<a href="#"><u>TABLE 1:</u></a>	<a href="#"><u>SYNTAX USED TO INDICATE DATABASE TABLE RELATIONSHIPS</u></a>	3
<a href="#"><u>TABLE 2:</u></a>	<a href="#"><u>AFFILIATION (STANET)</u></a>	34
<a href="#"><u>TABLE 3:</u></a>	<a href="#"><u>ALLOCATE_HOUR</u></a>	35
<a href="#"><u>TABLE 4:</u></a>	<a href="#"><u>ALLOW_RESID</u></a>	36
<a href="#"><u>TABLE 5:</u></a>	<a href="#"><u>ALPHASITE</u></a>	37
<a href="#"><u>TABLE 6:</u></a>	<a href="#"><u>AMP3C</u></a>	38
<a href="#"><u>TABLE 7:</u></a>	<a href="#"><u>AMPDESCRIPT</u></a>	39
<a href="#"><u>TABLE 8:</u></a>	<a href="#"><u>AMPLITUDE</u></a>	40
<a href="#"><u>TABLE 9:</u></a>	<a href="#"><u>APMA</u></a>	42
<a href="#"><u>TABLE 10:</u></a>	<a href="#"><u>ARCH_DATA_TYPE</u></a>	44
<a href="#"><u>TABLE 11:</u></a>	<a href="#"><u>ARRIVAL</u></a>	45
<a href="#"><u>TABLE 12:</u></a>	<a href="#"><u>ASSOC (ASSOC_TEMP_GA)</u></a>	47
<a href="#"><u>TABLE 13:</u></a>	<a href="#"><u>ATTENCOEF</u></a>	49
<a href="#"><u>TABLE 14:</u></a>	<a href="#"><u>BEAUMAUX</u></a>	50
<a href="#"><u>TABLE 15:</u></a>	<a href="#"><u>BULL_COMP</u></a>	51
<a href="#"><u>TABLE 16:</u></a>	<a href="#"><u>CEPPKS</u></a>	53
<a href="#"><u>TABLE 17:</u></a>	<a href="#"><u>CHAN_GROUPS</u></a>	54
<a href="#"><u>TABLE 18:</u></a>	<a href="#"><u>CHANNAME</u></a>	55
<a href="#"><u>TABLE 19:</u></a>	<a href="#"><u>COLORDISC</u></a>	56
<a href="#"><u>TABLE 20:</u></a>	<a href="#"><u>COMPLEXITY</u></a>	57
<a href="#"><u>TABLE 21:</u></a>	<a href="#"><u>DATADAYS</u></a>	58
<a href="#"><u>TABLE 22:</u></a>	<a href="#"><u>DATAREADY</u></a>	59

<a href="#"><u>TABLE 23:</u></a>	<a href="#"><u>DATAUSER</u></a>	60
<a href="#"><u>TABLE 24:</u></a>	<a href="#"><u>DETECTION</u></a>	62
<a href="#"><u>TABLE 25:</u></a>	<a href="#"><u>DISCARD</u></a>	64
<a href="#"><u>TABLE 26:</u></a>	<a href="#"><u>DLFILE</u></a>	65
<a href="#"><u>TABLE 27:</u></a>	<a href="#"><u>DLMAN</u></a>	67
<a href="#"><u>TABLE 28:</u></a>	<a href="#"><u>EV_SUMMARY (EX_SUMMARY, AN_SUMMARY)</u></a>	68
<a href="#"><u>TABLE 29:</u></a>	<a href="#"><u>EVENT</u></a>	70
<a href="#"><u>TABLE 30:</u></a>	<a href="#"><u>EVENT_CONTROL (IN_EVENT_CONTROL)</u></a>	71
<a href="#"><u>TABLE 31:</u></a>	<a href="#"><u>EVSC_HYDRO</u></a>	73
<a href="#"><u>TABLE 32:</u></a>	<a href="#"><u>EVSC_PROD</u></a>	74
<a href="#"><u>TABLE 33:</u></a>	<a href="#"><u>EVSC_REGIONAL</u></a>	76
<a href="#"><u>TABLE 34:</u></a>	<a href="#"><u>EX_AN</u></a>	78
<a href="#"><u>TABLE 35:</u></a>	<a href="#"><u>EXCEPTION_CHANMAP</u></a>	80
<a href="#"><u>TABLE 36:</u></a>	<a href="#"><u>EXPLO</u></a>	81
<a href="#"><u>TABLE 37:</u></a>	<a href="#"><u>FILEPRODUCT (FS_STAGEPRODUCT)</u></a>	83
<a href="#"><u>TABLE 38:</u></a>	<a href="#"><u>FKDISC</u></a>	84
<a href="#"><u>TABLE 39:</u></a>	<a href="#"><u>FORBEAUX</u></a>	86
<a href="#"><u>TABLE 40:</u></a>	<a href="#"><u>FPDESCRIPTION</u></a>	87
<a href="#"><u>TABLE 41:</u></a>	<a href="#"><u>FSAVE</u></a>	88
<a href="#"><u>TABLE 42:</u></a>	<a href="#"><u>FSDISC</u></a>	89
<a href="#"><u>TABLE 43:</u></a>	<a href="#"><u>FSRECIPE</u></a>	91
<a href="#"><u>TABLE 44:</u></a>	<a href="#"><u>FSTAG</u></a>	92
<a href="#"><u>TABLE 45:</u></a>	<a href="#"><u>FTPFAILED</u></a>	93
<a href="#"><u>TABLE 46:</u></a>	<a href="#"><u>FTPLOGIN</u></a>	94
<a href="#"><u>TABLE 47:</u></a>	<a href="#"><u>FWFILE</u></a>	95
<a href="#"><u>TABLE 48:</u></a>	<a href="#"><u>FWGAP</u></a>	96
<a href="#"><u>TABLE 49:</u></a>	<a href="#"><u>FWSITE</u></a>	97
<a href="#"><u>TABLE 50:</u></a>	<a href="#"><u>GA_TAG</u></a>	98
<a href="#"><u>TABLE 51:</u></a>	<a href="#"><u>GLOSSARY</u></a>	99
<a href="#"><u>TABLE 52:</u></a>	<a href="#"><u>GREGION</u></a>	100



<a href="#"><u>TABLE 53:</u></a>	<a href="#"><u>HYDRO_ARR_GROUP</u></a>	101
<a href="#"><u>TABLE 54:</u></a>	<a href="#"><u>HYDRO_ASSOC</u></a>	102
<a href="#"><u>TABLE 55:</u></a>	<a href="#"><u>HYDRO_FEATURES</u></a>	103
<a href="#"><u>TABLE 56:</u></a>	<a href="#"><u>INFRA_FEATURES</u></a>	105
<a href="#"><u>TABLE 57:</u></a>	<a href="#"><u>INSTRUMENT</u></a>	107
<a href="#"><u>TABLE 58:</u></a>	<a href="#"><u>INTERVAL</u></a>	108
<a href="#"><u>TABLE 59:</u></a>	<a href="#"><u>LASTID (PROBLASTID, RMS_LASTID)</u></a>	109
<a href="#"><u>TABLE 60:</u></a>	<a href="#"><u>LOCATION</u></a>	110
<a href="#"><u>TABLE 61:</u></a>	<a href="#"><u>MAPCOLOR</u></a>	111
<a href="#"><u>TABLE 62:</u></a>	<a href="#"><u>MAPDISC</u></a>	112
<a href="#"><u>TABLE 63:</u></a>	<a href="#"><u>MAPOVER</u></a>	114
<a href="#"><u>TABLE 64:</u></a>	<a href="#"><u>MAPPOINT</u></a>	115
<a href="#"><u>TABLE 65:</u></a>	<a href="#"><u>MIG_DATE</u></a>	116
<a href="#"><u>TABLE 66:</u></a>	<a href="#"><u>MIG_RULES</u></a>	117
<a href="#"><u>TABLE 67:</u></a>	<a href="#"><u>MSG AUX</u></a>	118
<a href="#"><u>TABLE 68:</u></a>	<a href="#"><u>MSGDATATYPE</u></a>	119
<a href="#"><u>TABLE 69:</u></a>	<a href="#"><u>MSGDEST</u></a>	120
<a href="#"><u>TABLE 70:</u></a>	<a href="#"><u>MSGDISC</u></a>	121
<a href="#"><u>TABLE 71:</u></a>	<a href="#"><u>NA_VALUE</u></a>	123
<a href="#"><u>TABLE 72:</u></a>	<a href="#"><u>NETMAG</u></a>	124
<a href="#"><u>TABLE 73:</u></a>	<a href="#"><u>NETWORK</u></a>	125
<a href="#"><u>TABLE 74:</u></a>	<a href="#"><u>ORIG AUX</u></a>	126
<a href="#"><u>TABLE 75:</u></a>	<a href="#"><u>ORIGERR (ORIGERR_TEMP_GA)</u></a>	127
<a href="#"><u>TABLE 76:</u></a>	<a href="#"><u>ORIGIN (ORIGINREF, ORIGIN_TEMP_GA)</u></a>	128
<a href="#"><u>TABLE 77:</u></a>	<a href="#"><u>OUTAGE</u></a>	130
<a href="#"><u>TABLE 78:</u></a>	<a href="#"><u>OVERLAYDISC</u></a>	131
<a href="#"><u>TABLE 79:</u></a>	<a href="#"><u>PARRIVAL</u></a>	132
<a href="#"><u>TABLE 80:</u></a>	<a href="#"><u>PARTICIPATION</u></a>	133
<a href="#"><u>TABLE 81:</u></a>	<a href="#"><u>PROBLEM</u></a>	134
<a href="#"><u>TABLE 82:</u></a>	<a href="#"><u>PROBLEMLOG</u></a>	135

<a href="#"><u>TABLE 83:</u></a>	<a href="#"><u>PROBLEMMAIL</u></a>	136
<a href="#"><u>TABLE 84:</u></a>	<a href="#"><u>PRODTRACK</u></a>	137
<a href="#"><u>TABLE 85:</u></a>	<a href="#"><u>PRODUCTCRITERIA</u></a>	138
<a href="#"><u>TABLE 86:</u></a>	<a href="#"><u>PRODUCTTYPEEVSC</u></a>	140
<a href="#"><u>TABLE 87:</u></a>	<a href="#"><u>PRODUCTTYPEORIGIN</u></a>	142
<a href="#"><u>TABLE 88:</u></a>	<a href="#"><u>PRODUCTTYPESTA</u></a>	144
<a href="#"><u>TABLE 89:</u></a>	<a href="#"><u>QCSTATS</u></a>	145
<a href="#"><u>TABLE 90:</u></a>	<a href="#"><u>REBDONE_DATADAY_FLAG</u></a>	147
<a href="#"><u>TABLE 91:</u></a>	<a href="#"><u>REF_LOC</u></a>	148
<a href="#"><u>TABLE 92:</u></a>	<a href="#"><u>REGCOEF</u></a>	149
<a href="#"><u>TABLE 93:</u></a>	<a href="#"><u>REMARK</u></a>	150
<a href="#"><u>TABLE 94:</u></a>	<a href="#"><u>REQUEST</u></a>	151
<a href="#"><u>TABLE 95:</u></a>	<a href="#"><u>REVAUDIT</u></a>	153
<a href="#"><u>TABLE 96:</u></a>	<a href="#"><u>SCAN_DATE</u></a>	154
<a href="#"><u>TABLE 97:</u></a>	<a href="#"><u>SEISGRID (DSEISGRID)</u></a>	155
<a href="#"><u>TABLE 98:</u></a>	<a href="#"><u>SEISINDEX (DSEISINDEX)</u></a>	156
<a href="#"><u>TABLE 99:</u></a>	<a href="#"><u>SENSOR</u></a>	157
<a href="#"><u>TABLE 100:</u></a>	<a href="#"><u>SITE</u></a>	159
<a href="#"><u>TABLE 101:</u></a>	<a href="#"><u>SITE_ADDRESS</u></a>	160
<a href="#"><u>TABLE 102:</u></a>	<a href="#"><u>SITEAUX</u></a>	161
<a href="#"><u>TABLE 103:</u></a>	<a href="#"><u>SITECHAN</u></a>	162
<a href="#"><u>TABLE 104:</u></a>	<a href="#"><u>SITEPOLL</u></a>	163
<a href="#"><u>TABLE 105:</u></a>	<a href="#"><u>SPLP</u></a>	164
<a href="#"><u>TABLE 106:</u></a>	<a href="#"><u>SPVAR</u></a>	165
<a href="#"><u>TABLE 107:</u></a>	<a href="#"><u>SREGION</u></a>	166
<a href="#"><u>TABLE 108:</u></a>	<a href="#"><u>STAMAG</u></a>	167
<a href="#"><u>TABLE 109:</u></a>	<a href="#"><u>STASSOC</u></a>	169
<a href="#"><u>TABLE 110:</u></a>	<a href="#"><u>STD_CHANMAP</u></a>	170
<a href="#"><u>TABLE 111:</u></a>	<a href="#"><u>SUBS</u></a>	171
<a href="#"><u>TABLE 112:</u></a>	<a href="#"><u>SUBSUSER</u></a>	172

<a href="#"><u>TABLE 113:</u></a>	<a href="#"><u>THIRDMOM</u></a>	173
<a href="#"><u>TABLE 114:</u></a>	<a href="#"><u>TIMEFREQ</u></a>	174
<a href="#"><u>TABLE 115:</u></a>	<a href="#"><u>TIMESTAMP</u></a>	175
<a href="#"><u>TABLE 116:</u></a>	<a href="#"><u>WEIGHTS</u></a>	176
<a href="#"><u>TABLE 117:</u></a>	<a href="#"><u>WFAUX</u></a>	177
<a href="#"><u>TABLE 118:</u></a>	<a href="#"><u>WFCONV</u></a>	178
<a href="#"><u>TABLE 119:</u></a>	<a href="#"><u>WFDISC (WFPROTO)</u></a>	180
<a href="#"><u>TABLE 120:</u></a>	<a href="#"><u>WFTAG</u></a>	182
<a href="#"><u>TABLE 121:</u></a>	<a href="#"><u>XTAG</u></a>	183
<a href="#"><u>TABLE 122:</u></a>	<a href="#"><u>GUIDELINES AND EXAMPLES OF NA VALUES</u></a>	187
<a href="#"><u>TABLE 123:</u></a>	<a href="#"><u>DATABASE TABLE GROUPS</u></a>	416
<a href="#"><u>TABLE 124:</u></a>	<a href="#"><u>RMSAUTO INDEXES</u></a>	420
<a href="#"><u>TABLE 125:</u></a>	<a href="#"><u>RMSAUTO UNIQUE DATA CONSTRAINTS</u></a>	422
<a href="#"><u>TABLE 126:</u></a>	<a href="#"><u>RMSAUTO PRIMARY KEY CONSTRAINTS</u></a>	422
<a href="#"><u>TABLE 127:</u></a>	<a href="#"><u>RMSAUTO FOREIGN KEY CONSTRAINTS</u></a>	422
<a href="#"><u>TABLE 128:</u></a>	<a href="#"><u>RMSAUTO COLUMN CONSTRAINTS</u></a>	426
<a href="#"><u>TABLE 129:</u></a>	<a href="#"><u>RMSAUTO SYNONYMS</u></a>	426
<a href="#"><u>TABLE 130:</u></a>	<a href="#"><u>RMSAUTO TRIGGERS</u></a>	429
<a href="#"><u>TABLE 131:</u></a>	<a href="#"><u>RMSMAN INDEXES</u></a>	434
<a href="#"><u>TABLE 132:</u></a>	<a href="#"><u>RMSMAN UNIQUE DATA CONSTRAINTS</u></a>	435
<a href="#"><u>TABLE 133:</u></a>	<a href="#"><u>RMSMAN PRIMARY KEY CONSTRAINTS</u></a>	435
<a href="#"><u>TABLE 134:</u></a>	<a href="#"><u>RMSMAN FOREIGN KEY CONSTRAINTS</u></a>	436
<a href="#"><u>TABLE 135:</u></a>	<a href="#"><u>RMSMAN COLUMN CONSTRAINTS</u></a>	438
<a href="#"><u>TABLE 136:</u></a>	<a href="#"><u>RMSMAN SEQUENCES</u></a>	438
<a href="#"><u>TABLE 137:</u></a>	<a href="#"><u>RMSMAN SYNONYMS</u></a>	439
<a href="#"><u>TABLE 138:</u></a>	<a href="#"><u>RMSMAN TRIGGERS</u></a>	440
<a href="#"><u>TABLE 139:</u></a>	<a href="#"><u>GARDS_ALERTS</u></a>	456
<a href="#"><u>TABLE 140:</u></a>	<a href="#"><u>GARDS_AUTO_SAMPLE_CAT</u></a>	457
<a href="#"><u>TABLE 141:</u></a>	<a href="#"><u>GARDS_AUX_LIB</u></a>	458
<a href="#"><u>TABLE 142:</u></a>	<a href="#"><u>GARDS_AUX_LINES_LIB</u></a>	459

<a href="#"><u>TABLE 143:</u></a>	<a href="#"><u>GARDS_B_ENERGY_PAIRS</u></a>	460
<a href="#"><u>TABLE 144:</u></a>	<a href="#"><u>GARDS_B_ENERGY_PAIRS_ORIG</u></a>	461
<a href="#"><u>TABLE 145:</u></a>	<a href="#"><u>GARDS_B_RESOLUTION_PAIRS</u></a>	462
<a href="#"><u>TABLE 146:</u></a>	<a href="#"><u>GARDS_B_RESOLUTION_PAIRS_ORIG</u></a>	463
<a href="#"><u>TABLE 147:</u></a>	<a href="#"><u>GARDS_BG_EFFICIENCY_PAIRS</u></a>	464
<a href="#"><u>TABLE 148:</u></a>	<a href="#"><u>GARDS_BG_ENERGY_CAL</u></a>	465
<a href="#"><u>TABLE 149:</u></a>	<a href="#"><u>GARDS_CAT_TEMPLATE</u></a>	466
<a href="#"><u>TABLE 150:</u></a>	<a href="#"><u>GARDS_CODES</u></a>	468
<a href="#"><u>TABLE 151:</u></a>	<a href="#"><u>GARDS_COMMENTS</u></a>	469
<a href="#"><u>TABLE 152:</u></a>	<a href="#"><u>GARDS_COMMENTS_DEFS</u></a>	470
<a href="#"><u>TABLE 153:</u></a>	<a href="#"><u>GARDS_DATA_LOG</u></a>	471
<a href="#"><u>TABLE 154:</u></a>	<a href="#"><u>GARDS_DBROLE_OWNER</u></a>	472
<a href="#"><u>TABLE 155:</u></a>	<a href="#"><u>GARDS_DETECTORS</u></a>	473
<a href="#"><u>TABLE 156:</u></a>	<a href="#"><u>GARDS_DIST_SAMPLE_QUEUE</u></a>	474
<a href="#"><u>TABLE 157:</u></a>	<a href="#"><u>GARDS_EFFICIENCY_CAL</u></a>	475
<a href="#"><u>TABLE 158:</u></a>	<a href="#"><u>GARDS_EFFICIENCY_PAIRS</u></a>	476
<a href="#"><u>TABLE 159:</u></a>	<a href="#"><u>GARDS_ENERGY_CAL</u></a>	477
<a href="#"><u>TABLE 160:</u></a>	<a href="#"><u>GARDS_ENERGY_CAL_ORIG</u></a>	479
<a href="#"><u>TABLE 161:</u></a>	<a href="#"><u>GARDS_ENERGY_PAIRS</u></a>	481
<a href="#"><u>TABLE 162:</u></a>	<a href="#"><u>GARDS_ENERGY_PAIRS_ORIG</u></a>	482
<a href="#"><u>TABLE 163:</u></a>	<a href="#"><u>GARDS_ENVIRONMENT</u></a>	483
<a href="#"><u>TABLE 164:</u></a>	<a href="#"><u>GARDS_FLAGS</u></a>	484
<a href="#"><u>TABLE 165:</u></a>	<a href="#"><u>GARDS_FPE</u></a>	485
<a href="#"><u>TABLE 166:</u></a>	<a href="#"><u>GARDS_HISTOGRAM</u></a>	486
<a href="#"><u>TABLE 167:</u></a>	<a href="#"><u>GARDS_INTERVAL</u></a>	487
<a href="#"><u>TABLE 168:</u></a>	<a href="#"><u>GARDS_MDAS2REPORT</u></a>	488
<a href="#"><u>TABLE 169:</u></a>	<a href="#"><u>GARDS_MET_DATA</u></a>	489
<a href="#"><u>TABLE 170:</u></a>	<a href="#"><u>GARDS_NOTIFY</u></a>	490
<a href="#"><u>TABLE 171:</u></a>	<a href="#"><u>GARDS_NUCL2QUANTIFY</u></a>	491
<a href="#"><u>TABLE 172:</u></a>	<a href="#"><u>GARDS_NUCL_IDED</u></a>	492

<a href="#"><u>TABLE 173:</u></a>	<a href="#"><u>GARDS_NUCL_IDED_ORIG</u></a>	494
<a href="#"><u>TABLE 174:</u></a>	<a href="#"><u>GARDS_NUCL_LIB</u></a>	496
<a href="#"><u>TABLE 175:</u></a>	<a href="#"><u>GARDS_NUCL_LINES_IDED</u></a>	497
<a href="#"><u>TABLE 176:</u></a>	<a href="#"><u>GARDS_NUCL_LINES_IDED_ORIG</u></a>	499
<a href="#"><u>TABLE 177:</u></a>	<a href="#"><u>GARDS_NUCL_LINES_LIB</u></a>	501
<a href="#"><u>TABLE 178:</u></a>	<a href="#"><u>GARDS_PEAKS</u></a>	502
<a href="#"><u>TABLE 179:</u></a>	<a href="#"><u>GARDS_PEAKS_ORIG</u></a>	505
<a href="#"><u>TABLE 180:</u></a>	<a href="#"><u>GARDS_PERMISSIONS</u></a>	508
<a href="#"><u>TABLE 181:</u></a>	<a href="#"><u>GARDS_POC</u></a>	509
<a href="#"><u>TABLE 182:</u></a>	<a href="#"><u>GARDS_PROC_PARAMS_TEMPLATE</u></a>	510
<a href="#"><u>TABLE 183:</u></a>	<a href="#"><u>GARDS_QCHISTORY</u></a>	513
<a href="#"><u>TABLE 184:</u></a>	<a href="#"><u>GARDS_QCPARAMS</u></a>	514
<a href="#"><u>TABLE 185:</u></a>	<a href="#"><u>GARDS_QCTARGETS</u></a>	515
<a href="#"><u>TABLE 186:</u></a>	<a href="#"><u>GARDS_QUERY_RESULTS</u></a>	516
<a href="#"><u>TABLE 187:</u></a>	<a href="#"><u>GARDS_RECEIPT_LOG</u></a>	517
<a href="#"><u>TABLE 188:</u></a>	<a href="#"><u>GARDS_REFLINE_MASTER</u></a>	518
<a href="#"><u>TABLE 189:</u></a>	<a href="#"><u>GARDS_RELEVANT_NUCLIDES</u></a>	519
<a href="#"><u>TABLE 190:</u></a>	<a href="#"><u>GARDS_RESOLUTION_CAL</u></a>	520
<a href="#"><u>TABLE 191:</u></a>	<a href="#"><u>GARDS_RESOLUTION_CAL_ORIG</u></a>	521
<a href="#"><u>TABLE 192:</u></a>	<a href="#"><u>GARDS_RESOLUTION_PAIRS</u></a>	522
<a href="#"><u>TABLE 193:</u></a>	<a href="#"><u>GARDS_RESOLUTION_PAIRS_ORIG</u></a>	523
<a href="#"><u>TABLE 194:</u></a>	<a href="#"><u>GARDS_RLR</u></a>	524
<a href="#"><u>TABLE 195:</u></a>	<a href="#"><u>GARDS_ROI_CHANNELS</u></a>	525
<a href="#"><u>TABLE 196:</u></a>	<a href="#"><u>GARDS_ROI_CONCS</u></a>	526
<a href="#"><u>TABLE 197:</u></a>	<a href="#"><u>GARDS_ROI_COUNTS</u></a>	527
<a href="#"><u>TABLE 198:</u></a>	<a href="#"><u>GARDS_ROI_LIB</u></a>	528
<a href="#"><u>TABLE 199:</u></a>	<a href="#"><u>GARDS_ROI_LIMITS</u></a>	529
<a href="#"><u>TABLE 200:</u></a>	<a href="#"><u>GARDS_ROLES</u></a>	530
<a href="#"><u>TABLE 201:</u></a>	<a href="#"><u>GARDS_ROLES_PERMISSIONS</u></a>	531
<a href="#"><u>TABLE 202:</u></a>	<a href="#"><u>GARDS_SAMPLE_AUX</u></a>	532

<a href="#"><u>TABLE 203:</u></a>	<a href="#"><u>GARDS_SAMPLE_CAT</u></a>	533
<a href="#"><u>TABLE 204:</u></a>	<a href="#"><u>GARDS_SAMPLE_CERT</u></a>	534
<a href="#"><u>TABLE 205:</u></a>	<a href="#"><u>GARDS_SAMPLE_CERT_LINES</u></a>	535
<a href="#"><u>TABLE 206:</u></a>	<a href="#"><u>GARDS_SAMPLE_DATA</u></a>	536
<a href="#"><u>TABLE 207:</u></a>	<a href="#"><u>GARDS_SAMPLE_DESCRIPTION</u></a>	538
<a href="#"><u>TABLE 208:</u></a>	<a href="#"><u>GARDS_SAMPLE_FLAGS</u></a>	539
<a href="#"><u>TABLE 209:</u></a>	<a href="#"><u>GARDS_SAMPLE_PROC_PARAMS</u></a>	540
<a href="#"><u>TABLE 210:</u></a>	<a href="#"><u>GARDS_SAMPLE_RATIOS</u></a>	543
<a href="#"><u>TABLE 211:</u></a>	<a href="#"><u>GARDS_SAMPLE_STATUS</u></a>	544
<a href="#"><u>TABLE 212:</u></a>	<a href="#"><u>GARDS_SAMPLE_UPDATE_PARAMS</u></a>	545
<a href="#"><u>TABLE 213:</u></a>	<a href="#"><u>GARDS_SAMPLE_XE_PROC_PARAMS</u></a>	546
<a href="#"><u>TABLE 214:</u></a>	<a href="#"><u>GARDS_SOH_CHAR_DATA</u></a>	547
<a href="#"><u>TABLE 215:</u></a>	<a href="#"><u>GARDS_SOH_CODE</u></a>	548
<a href="#"><u>TABLE 216:</u></a>	<a href="#"><u>GARDS_SOH_HEADER</u></a>	549
<a href="#"><u>TABLE 217:</u></a>	<a href="#"><u>GARDS_SOH_NUM_DATA</u></a>	550
<a href="#"><u>TABLE 218:</u></a>	<a href="#"><u>GARDS_SOH_SENSOR_DATA</u></a>	551
<a href="#"><u>TABLE 219:</u></a>	<a href="#"><u>GARDS_SPECTRUM</u></a>	552
<a href="#"><u>TABLE 220:</u></a>	<a href="#"><u>GARDS_STADET</u></a>	553
<a href="#"><u>TABLE 221:</u></a>	<a href="#"><u>GARDS_STATION_ASSIGNMENTS</u></a>	554
<a href="#"><u>TABLE 222:</u></a>	<a href="#"><u>GARDS_STATIONS</u></a>	555
<a href="#"><u>TABLE 223:</u></a>	<a href="#"><u>GARDS_STATIONS_SCHEDULE</u></a>	556
<a href="#"><u>TABLE 224:</u></a>	<a href="#"><u>GARDS_TOTAL EFFIC</u></a>	557
<a href="#"><u>TABLE 225:</u></a>	<a href="#"><u>GARDS_TRENDVUE</u></a>	558
<a href="#"><u>TABLE 226:</u></a>	<a href="#"><u>GARDS_UPDATE_PARAMS_TEMPLATE</u></a>	559
<a href="#"><u>TABLE 227:</u></a>	<a href="#"><u>GARDS_UPDATE_REFLINES</u></a>	560
<a href="#"><u>TABLE 228:</u></a>	<a href="#"><u>GARDS_USER_COMMENTS</u></a>	561
<a href="#"><u>TABLE 229:</u></a>	<a href="#"><u>GARDS_USERENV</u></a>	562
<a href="#"><u>TABLE 230:</u></a>	<a href="#"><u>GARDS_USERS</u></a>	563
<a href="#"><u>TABLE 231:</u></a>	<a href="#"><u>GARDS_USERS_ROLES</u></a>	564
<a href="#"><u>TABLE 232:</u></a>	<a href="#"><u>GARDS_XE_NUCL_LIB</u></a>	565

<a href="#"><u>TABLE 233:</u></a>	<a href="#"><u>GARDS_XE_NUCL_LINES_LIB</u></a>	566
<a href="#"><u>TABLE 234:</u></a>	<a href="#"><u>GARDS_XE_PROC_PARAMS_TEMPLATE</u></a>	567





## About this Document

This chapter describes the organization and content of the document and includes the following topics:

- [Purpose](#)
- [Scope](#)
- [Audience](#)
- [Related Information](#)
- [Using this Document](#)

# About this Document

## PURPOSE

This document describes the Prototype International Data Centre (PIDC) database schema. It is Revision 3 of *Database Schema*.

Since the Revision 2 publication, four new tables have been added and seven tables have been modified in the seismic, hydroacoustic, infrasonic (S/H/I) schema. Descriptions of all tables, columns, and entity relationships have been added, changed, or deleted to reflect the following changes:

- The *msgtype* attribute was added to the **datauser** table.
- Tables used by the Event Screening Subsystem (**evsc\_hydro**, **evsc\_prod**, **evsc\_regional**, and **producttypeevsc**) were altered to meet the needs of software updates.
- The **fs\_stageproduct** table was added to the schema to retain the results of running the *FSstage* process between runs. This table has the same structure as the **fileproduct** table.
- Storage formats for several of the **fileproduct** and **msgdisc** table attributes were changed.
- The **revaudit** table was added to the schema to keep a history of the revisions made to an event.
- The **std\_chanmap** and **exception\_chanmap** tables were added to the schema to map external channel names to channel names used within the PIDC.

Since the Revision 2 publication, eight new tables have been added, nine tables have been modified, and three tables have been deleted from the radionuclide schema. Descriptions of all tables, columns, and entity relationships have been added, changed, or deleted to reflect the following changes:

- Three new tables were added to the schema to support categorization: **`gards_auto_sample_cat`**, **`gards_cat_template`**, and **`gards_sample_cat`**.
- Three new tables (**`gards_soh_char_data`**, **`gards_soh_num_data`**, and **`gards_soh_sensor_data`**) replaced the **`gards_soh_data`** table and the **`gards_soh_code`** table was altered to support the processing of State of Health (SOH) data.
- The **`gards_db_role_owner`** table was added and the **`gards_permissions`**, **`gards_roles`**, **`gards_users`**, and **`gards_users_roles`** tables were altered. These tables manage roles and permissions.
- The **`gards_comments`**, **`gards_data_log`**, **`gards_sample_xe_proc_params`**, and **`gards_user_comments`** tables were altered.
- The **`gards_bg_energy_cal`** table was added to the schema.
- The **`gards_nic`** and **`gards_nic_init`** tables were removed from the schema.

## SCOPE

This document describes the schema used in the PIDC databases. The schema includes relationships between tables, table descriptions, and definitions of the table columns.

This document does not describe the specific location and general use of these tables at the PIDC or how to manipulate them to obtain information. Nor does it provide the formats for external file representations of the tables. These topics are described in sources cited in [Related Information](#).

## AUDIENCE

This document is intended for software developers, engineers, scientists, processing operators, and anyone who needs to interact with the databases at the PIDC.

## ▼ About this Document

### RELATED INFORMATION

This document supersedes [\[And90a\]](#), [\[Swa91\]](#), [\[Swa93\]](#), [\[Car97\]](#), [\[IDC5.1.1\]](#), [\[IDC5.1.1Rev1\]](#), and [\[IDC5.1.1Rev2\]](#).

External formats of all columns used with S/H/I data are described in [“S/H/I Column Descriptions” on page 185](#), and most can also be found in [\[Car97\]](#).

Tables used with specific application software are described in the software design documents (for example, [\[IDC7.1.1\]](#), [\[IDC7.1.3\]](#), [\[IDC7.1.4\]](#), [\[IDC7.1.5\]](#), [\[IDC7.1.6\]](#), [\[IDC7.1.10Rev1\]](#), [\[IDC7.1.11\]](#), [\[IDC7.1.12\]](#), [\[IDC7.3.1\]](#), [\[IDC7.4.1\]](#), [\[IDC7.4.2\]](#), [\[IDC7.4.3\]](#), [\[IDC7.4.4\]](#), and [\[IDC7.5.1\]](#)).

The following documents provide information and instructions for retrieving data from the PIDC databases:

- *Database Tutorial* [\[IDC5.1.2\]](#)
- *Configuration of PIDC Databases* [\[IDC5.1.3Rev0.1\]](#)

See [“References” on page R1](#) for a listing of all the sources of information consulted in preparing this document.

### USING THIS DOCUMENT

This document is part of the overall documentation architecture for the International Data Centre (IDC). It is part of the User Guides document category, which provides information relevant to understanding IDC processing.

This document is organized as follows:

- [Chapter 1: S/H/I Entity Relationships](#)  
This chapter describes the relationships between the S/H/I database tables.

- [Chapter 2: S/H/I Table Descriptions](#)

This chapter describes each table in the S/H/I database schema (in alphabetical order). It includes information about the category to which the table belongs, the columns included in the table, ORACLE storage types for each column, keys (primary, alternate, and foreign), and column categories (descriptive, measurement, or administrative).

- [Chapter 3: S/H/I Column Descriptions](#)

This chapter provides detailed descriptions of the columns of the S/H/I database schema including the tables in which the columns may be found, a full description of the column, storage and external formats, NA values, units, and ranges.

- [Chapter 4: Radionuclide Database Overview](#)

This chapter provides an overview of the radionuclide database tables through an organizational description of the tables.

- [Chapter 5: Radionuclide Entity Relationships](#)

This chapter describes the relationships between the radionuclide database tables.

- [Chapter 6: Radionuclide Table Descriptions](#)

This chapter describes each table in the radionuclide database schema (in alphabetical order). It includes information about the columns included in the table, ORACLE storage types for each column, and keys (primary, alternate, and foreign).

- [Chapter 7: Radionuclide Column Descriptions](#)

This chapter provides detailed descriptions of the columns of the radionuclide database schema including the tables in which the columns may be found, a full description of the column, storage and external formats, NA values, units, and ranges.

- [References](#)

This section lists the sources cited in this document.

▼ About this Document

- [Glossary](#)  
This section defines the terms, abbreviations, and acronyms used in this document.
- [Index](#)  
This section lists topics and features provided in this document along with page numbers for reference.

The print version of this document is separated into three parts for ease of printing. Each part contains one or more chapters of the document. Part 1 includes Chapters 1 and 2; Part 2 includes Chapter 3; and Part 3 includes Chapters 4 through 7. Each part has a complete Table of Contents, an “About this Document” section, a Reference, a Glossary, and an Index. Parts 1 and 3 also have a List of Figures and a List of Tables.

Conventions

This document uses a variety of conventions, which are described in the following tables. [Table I](#) shows the conventions for entity-relationship diagrams. [Table II](#) lists typographical conventions. [Table III](#) explains certain technical terms that are not part of the standard Glossary, which is located at the end of this document.

TABLE I: ENTITY-RELATIONSHIP SYMBOLS



Description	Symbol
One A maps to one B.	A  B
One A maps to zero or one B.	A  B

TABLE I: ENTITY-RELATIONSHIP SYMBOLS (CONTINUED)


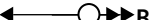






Description	Symbol							
One A maps to many Bs.	A  B							
One A maps to zero or many Bs.	A  B							
database table	<table><tr><td><b>tablename</b></td></tr><tr><td> <i>primary key</i></td></tr><tr><td> <i>foreign key</i></td></tr><tr><td><i>attribute 1</i></td></tr><tr><td><i>attribute 2</i></td></tr><tr><td>...</td></tr><tr><td><i>attribute n</i></td></tr></table>	<b>tablename</b>	 <i>primary key</i>	 <i>foreign key</i>	<i>attribute 1</i>	<i>attribute 2</i>	...	<i>attribute n</i>
<b>tablename</b>								
 <i>primary key</i>								
 <i>foreign key</i>								
<i>attribute 1</i>								
<i>attribute 2</i>								
...								
<i>attribute n</i>								

TABLE II: TYPOGRAPHICAL CONVENTIONS

Element	Font	Example
database table	<b>bold</b>	<b>dataready</b>
database table and column, when written in the dot notation		<b>prodtrack.status</b>
database columns	<i>italics</i>	<i>status</i>
processes, software units, and libraries		<i>ParseSubs</i>
user-defined arguments and variables used in parameter (par) files or program com- mand lines		<i>delete-remarks object</i>
titles of documents		<i>Continuous Data Subsystem</i>
BEA supplied server software (all CAPS)		<i>BRIDGE</i>
computer code and output	<b>courier</b>	<b>&gt;(list 'a 'b 'c)</b>
filenames, directories, and web sites		<b>ars.scm</b>
text that should be typed in exactly as shown		<b>edit-filter-dialog</b>

### TABLE III: TECHNICAL TERMS

Term	Description
Data: Administrative	database columns used for administrative purposes
Data: Descriptive	database columns that are qualitative
Data: Measurement	database columns that are quantitative
field	database column
Keys: Alternate	set of alternate database columns that uniquely define a row in a database table (unique key)
Keys: Foreign	primary key in a different table
Keys: Primary	set of database columns that uniquely define a row in a database table (unique key)

## Dates and Times

The *time* column used throughout the S/H/I schema is stored as epochal time, the number of seconds since January 1, 1970. Epochal time has a precision of one millisecond. Often *time* is matched by the more readable field, *jdate*. This “Julian date” represents a day in the form *yyyyddd*; for example, 1981231 where 1981 is the year (*yyyy*) and 231 is the day of year (*ddd*).

## Oracle Data Types

The PIDC database uses four of the available ORACLE data types:

- `varchar2(n)`

All character data in the database are defined to be `varchar2(n)` where *n* is the maximum number of characters in the string. `varchar2` does not store trailing blanks.



- `number(n)`

All integer fields in the database are defined to be `number(n)` where *n* is the maximum number of digits allowed in the field. Number may also be used without specifying the maximum number of digits.

- `float(n)`

ORACLE supports the `float(n)` data type where *n* is the maximum number of binary digits. Float allows the approximation of single and double precision floats commonly used in scientific programming. The decimal point may be specified anywhere from the first to the last digit (or not at all). All real numbers in the database are single precision `float(24)`, except for [epoch time](#) fields such as *time*, *endtime*, and other time fields that are double precision `float(53)`.

- `date`

The only columns in the database that are declared to be the ORACLE date data type are the *lddate*, *moddate*, *last\_mig\_date*, *offdate*, *ondate*, and *initialdate* columns, which store the day and time a record was inserted into the database or last modified.

